FIG. 1

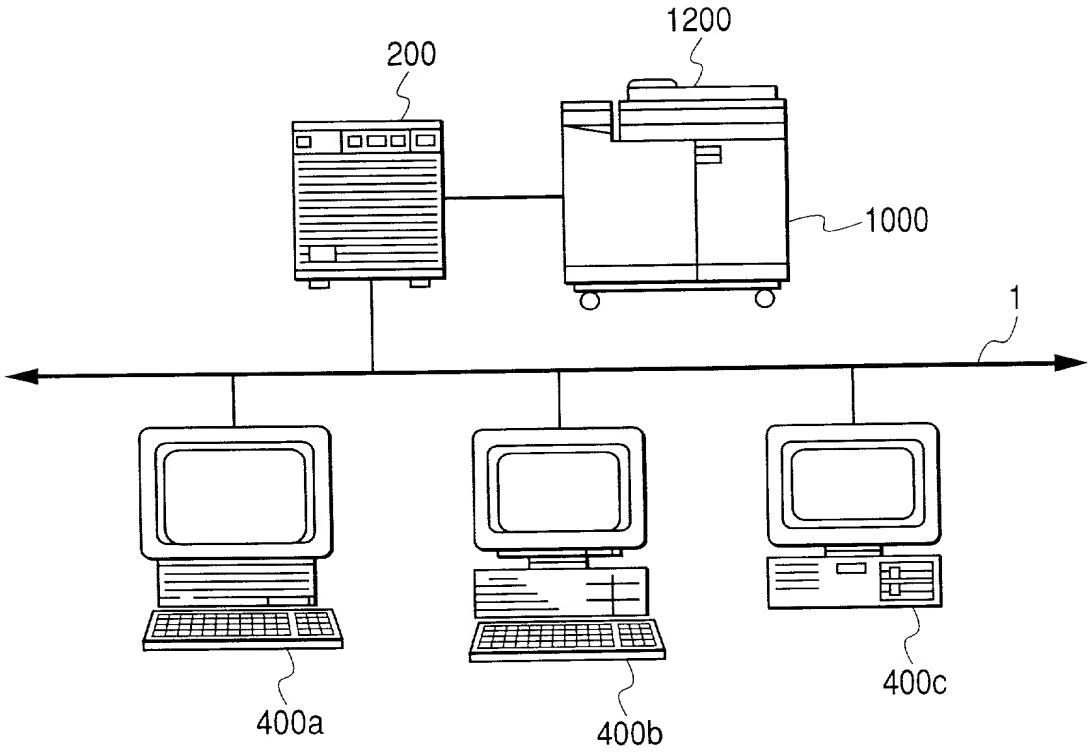

FIG. 2

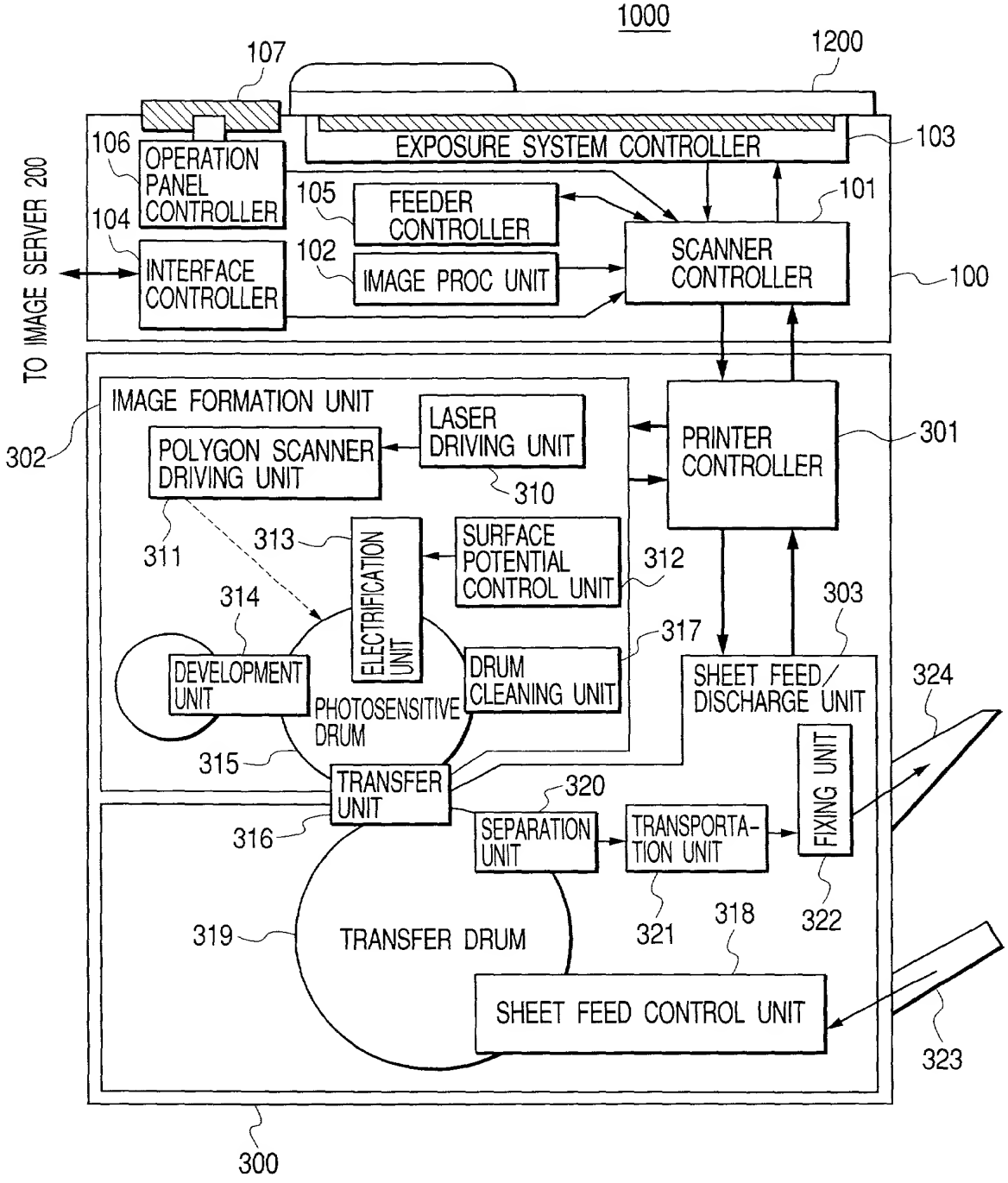
1000
107
1200
106
OPERATION PANEL CONTROLLER
EXPOSURE SYSTEM CONTROLLER
103
105
FEEDER CONTROLLER
101
104
INTERFACE CONTROLLER
102
IMAGE PROC UNIT
SCANNER CONTROLLER
100
TO IMAGE SERVER 200
IMAGE FORMATION UNIT
302
POLYGON SCANNER DRIVING UNIT
LASER DRIVING UNIT
310
PRINTER CONTROLLER
301
311
313
ELECTRIFICATION UNIT
SURFACE POTENTIAL CONTROL UNIT
312
314
303
317
DEVELOPMENT UNIT
PHOTOSENSITIVE DRUM
DRUM CLEANING UNIT
SHEET FEED/ DISCHARGE UNIT
324
315
TRANSFER UNIT
320
316
SEPARATION UNIT
TRANSPORTA-TION UNIT
FIXING UNIT
319
TRANSFER DRUM
321
318
322
SHEET FEED CONTROL UNIT
323
300

FIG. 3

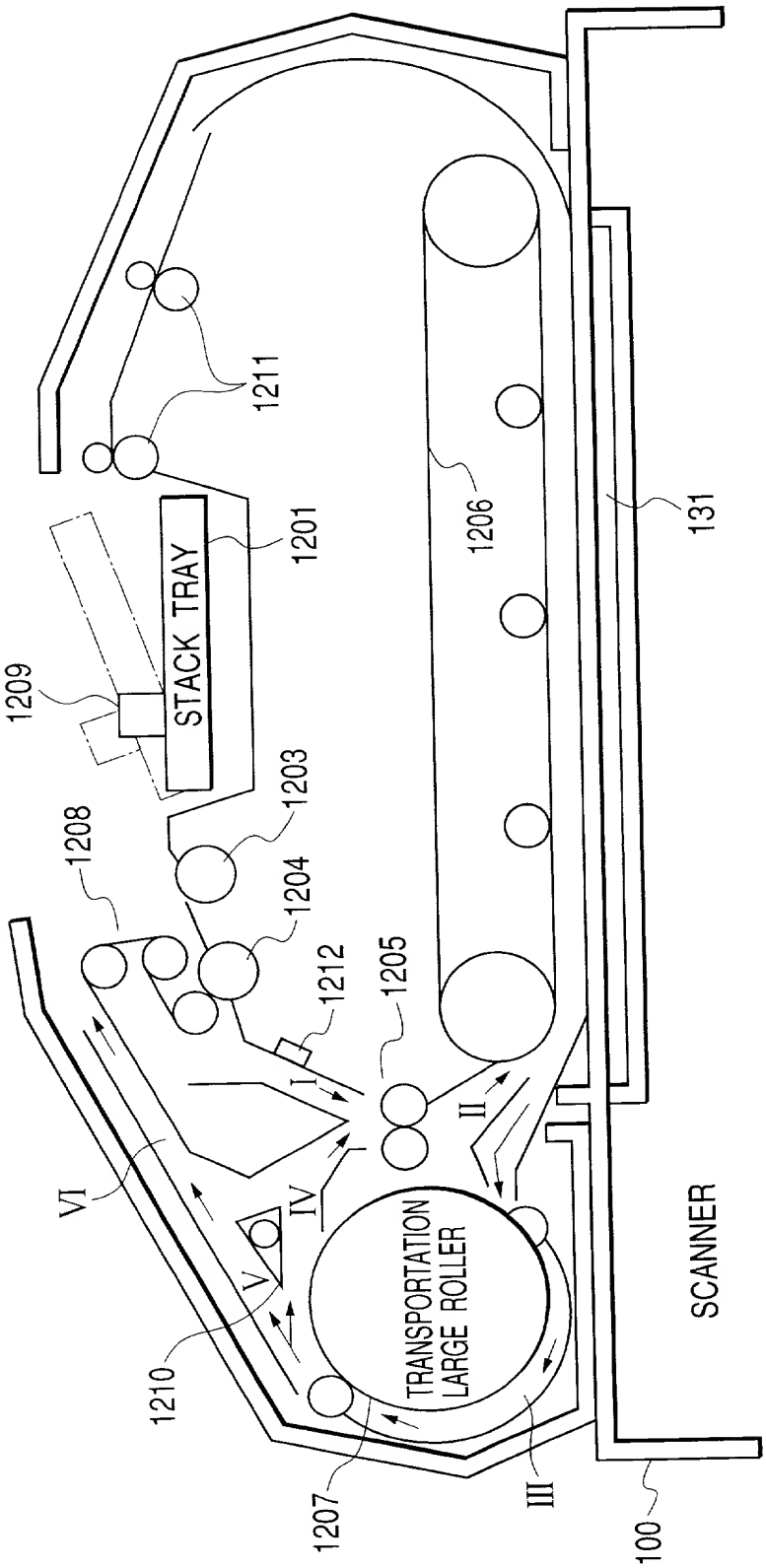
1211
1201
STACK TRAY
1209
1203
1208
1204
1212
1205
1206
131
I
II
III
IV
V
VI
1210
1207
TRANSPORTATION LARGE ROLLER
SCANNER
100

FIG. 4

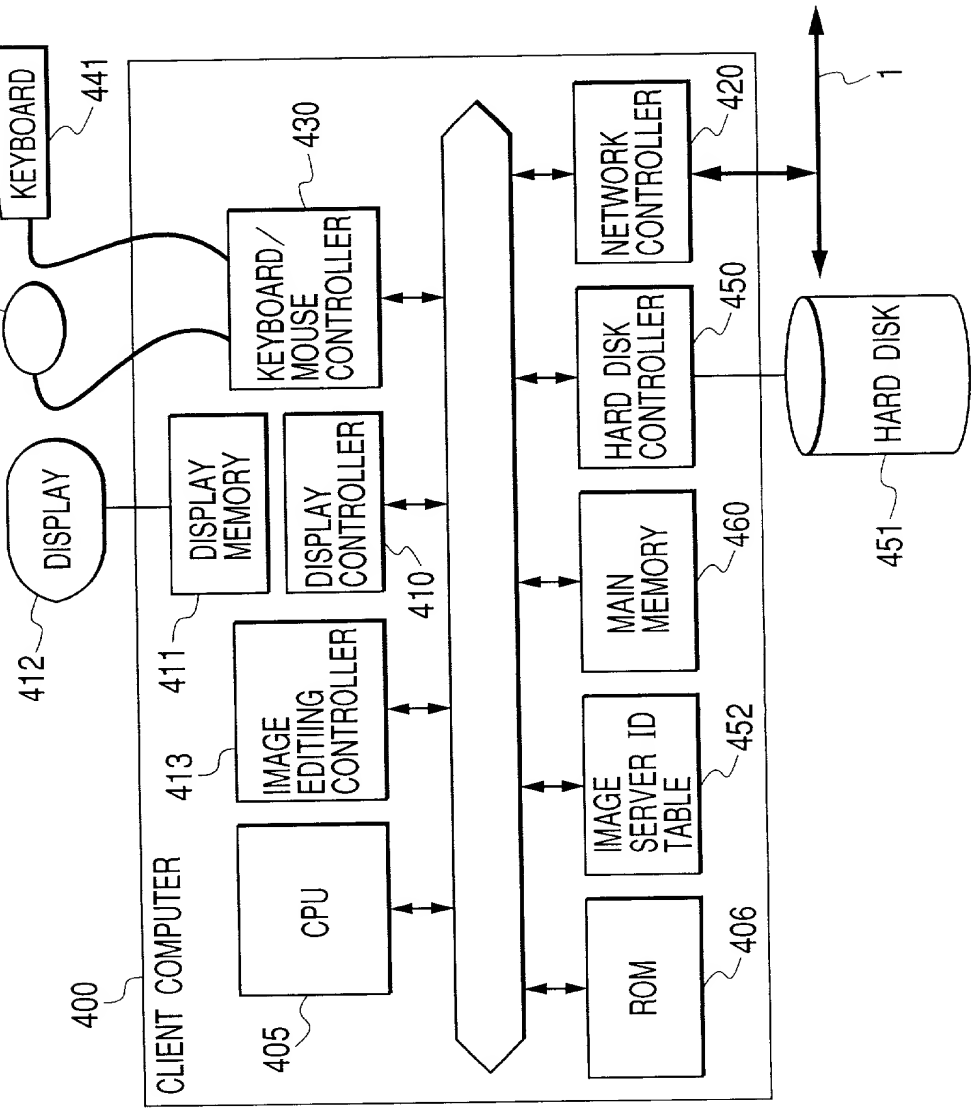
CLIENT COMPUTER
400
CPU
405
IMAGE EDITING CONTROLLER
413
DISPLAY MEMORY
411
DISPLAY CONTROLLER
410
KEYBOARD/ MOUSE CONTROLLER
430
NETWORK CONTROLLER
420
HARD DISK CONTROLLER
450
MAIN MEMORY
460
IMAGE SERVER ID TABLE
452
ROM
406
DISPLAY
412
KEYBOARD
441
431
HARD DISK
451
1

FIG. 5

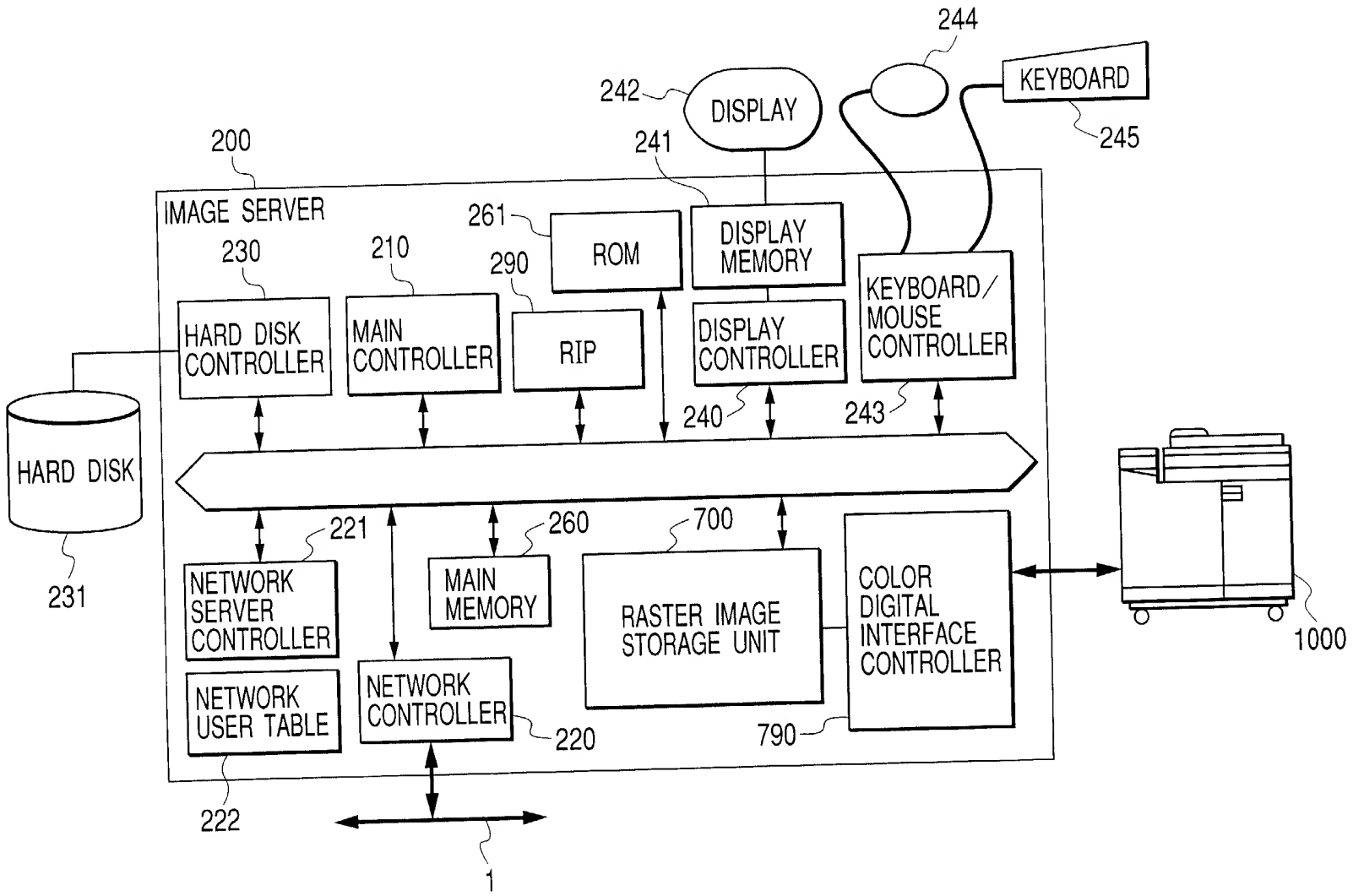
244
242
DISPLAY
KEYBOARD
245
241
200
IMAGE SERVER
261
ROM
DISPLAY MEMORY
230
210
290
HARD DISK CONTROLLER
MAIN CONTROLLER
RIP
DISPLAY CONTROLLER
KEYBOARD/ MOUSE CONTROLLER
240
243
HARD DISK
231
221
260
700
NETWORK SERVER CONTROLLER
MAIN MEMORY
RASTER IMAGE STORAGE UNIT
COLOR DIGITAL INTERFACE CONTROLLER
1000
NETWORK USER TABLE
NETWORK CONTROLLER
220
790
222
1

FIG. 6

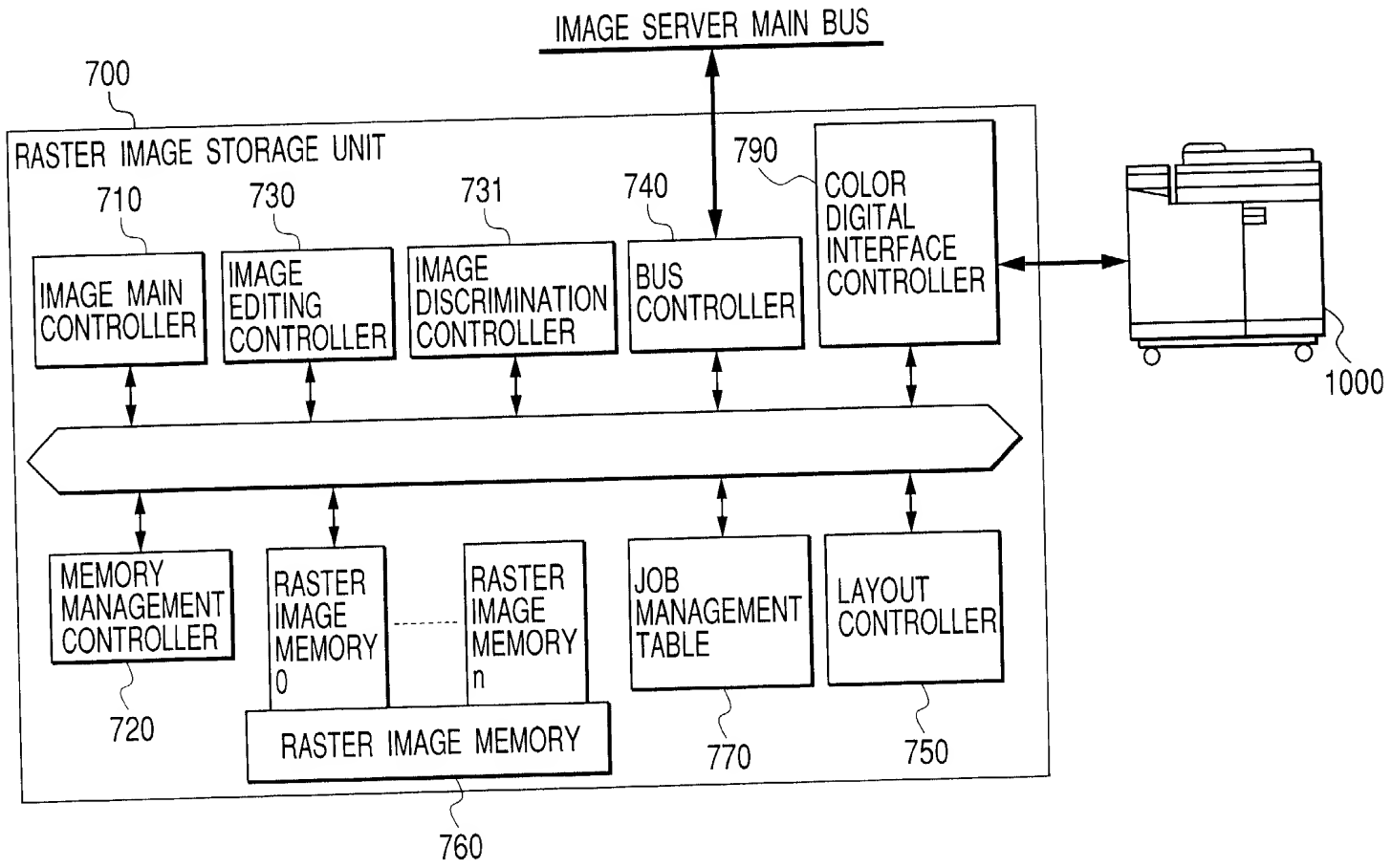
IMAGE SERVER MAIN BUS
700
RASTER IMAGE STORAGE UNIT
710
IMAGE MAIN CONTROLLER
730
IMAGE EDITING CONTROLLER
731
IMAGE DISCRIMINATION CONTROLLER
740
BUS CONTROLLER
790
COLOR DIGITAL INTERFACE CONTROLLER
1000
MEMORY MANAGEMENT CONTROLLER
720
RASTER IMAGE MEMORY 0
RASTER IMAGE MEMORY n
RASTER IMAGE MEMORY
760
JOB MANAGEMENT TABLE
770
LAYOUT CONTROLLER
750

FIG. 7

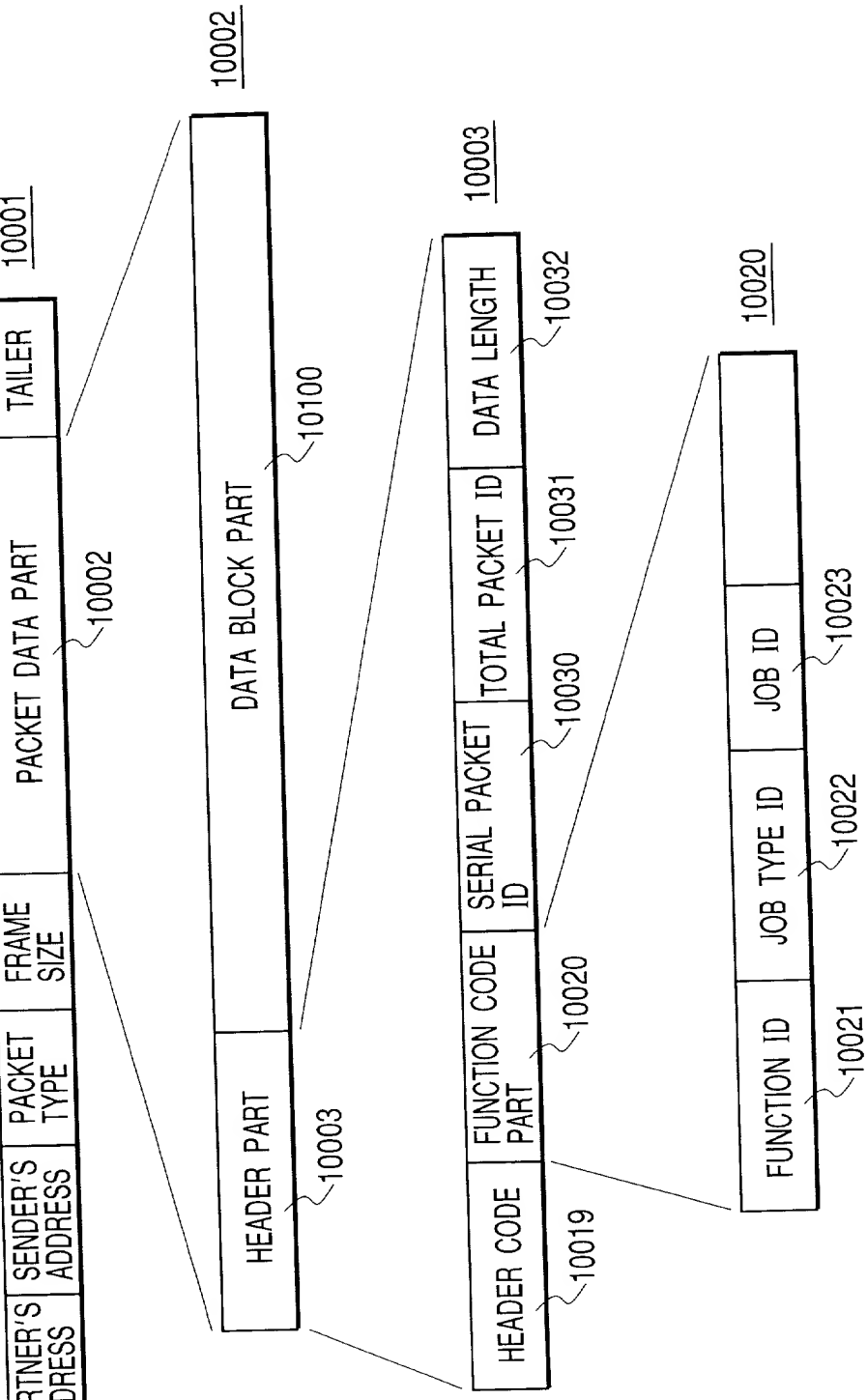
PARTNER'S ADDRESS
SENDER'S ADDRESS
PACKET TYPE
FRAME SIZE
PACKET DATA PART
TAILER
10001
10002
HEADER PART
DATA BLOCK PART
10003
10100
HEADER CODE
FUNCTION CODE PART
SERIAL PACKET ID
TOTAL PACKET ID
DATA LENGTH
10003
10019
10020
10030
10031
10032
FUNCTION ID
JOB TYPE ID
JOB ID
10020
10021
10022
10023

FIG. 8

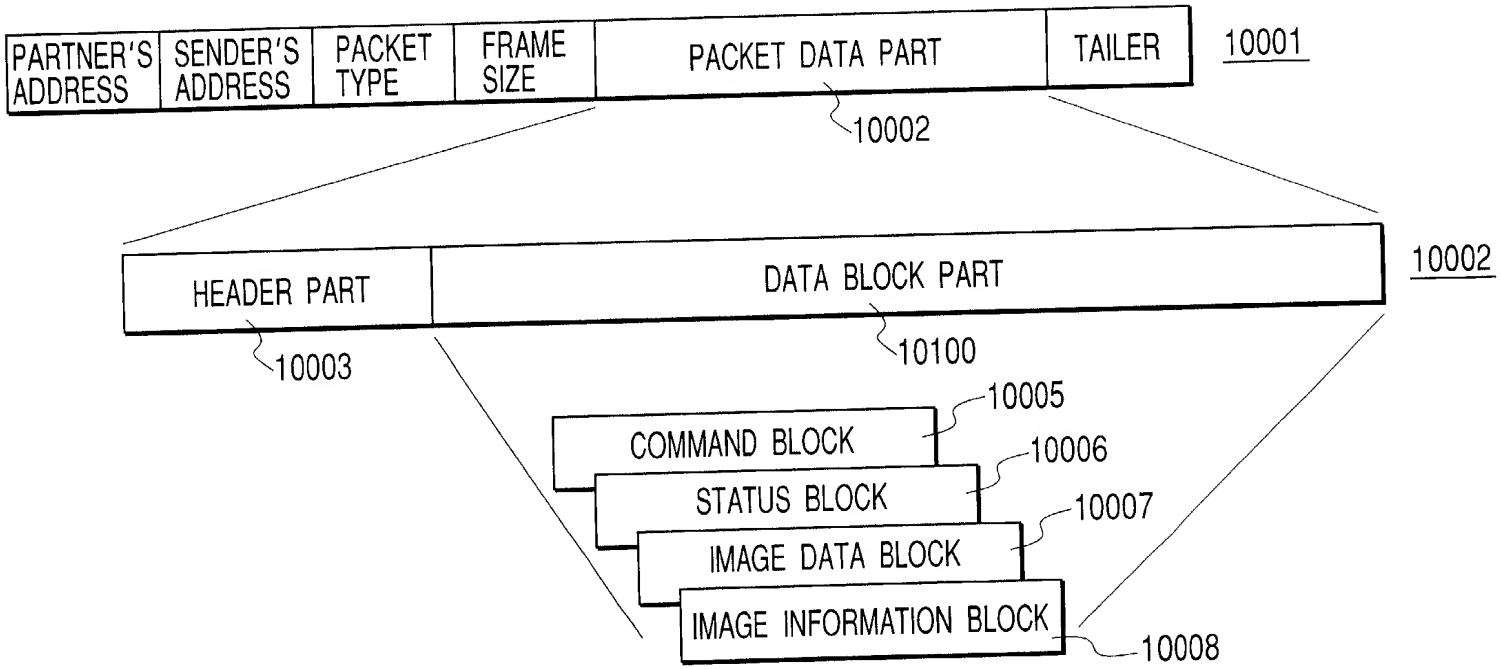
PARTNER'S ADDRESS
SENDER'S ADDRESS
PACKET TYPE
FRAME SIZE
PACKET DATA PART
TAILER
10001
10002
HEADER PART
DATA BLOCK PART
10002
10003
10100
10005
COMMAND BLOCK
10006
STATUS BLOCK
10007
IMAGE DATA BLOCK
IMAGE INFORMATION BLOCK
10008

FIG. 9

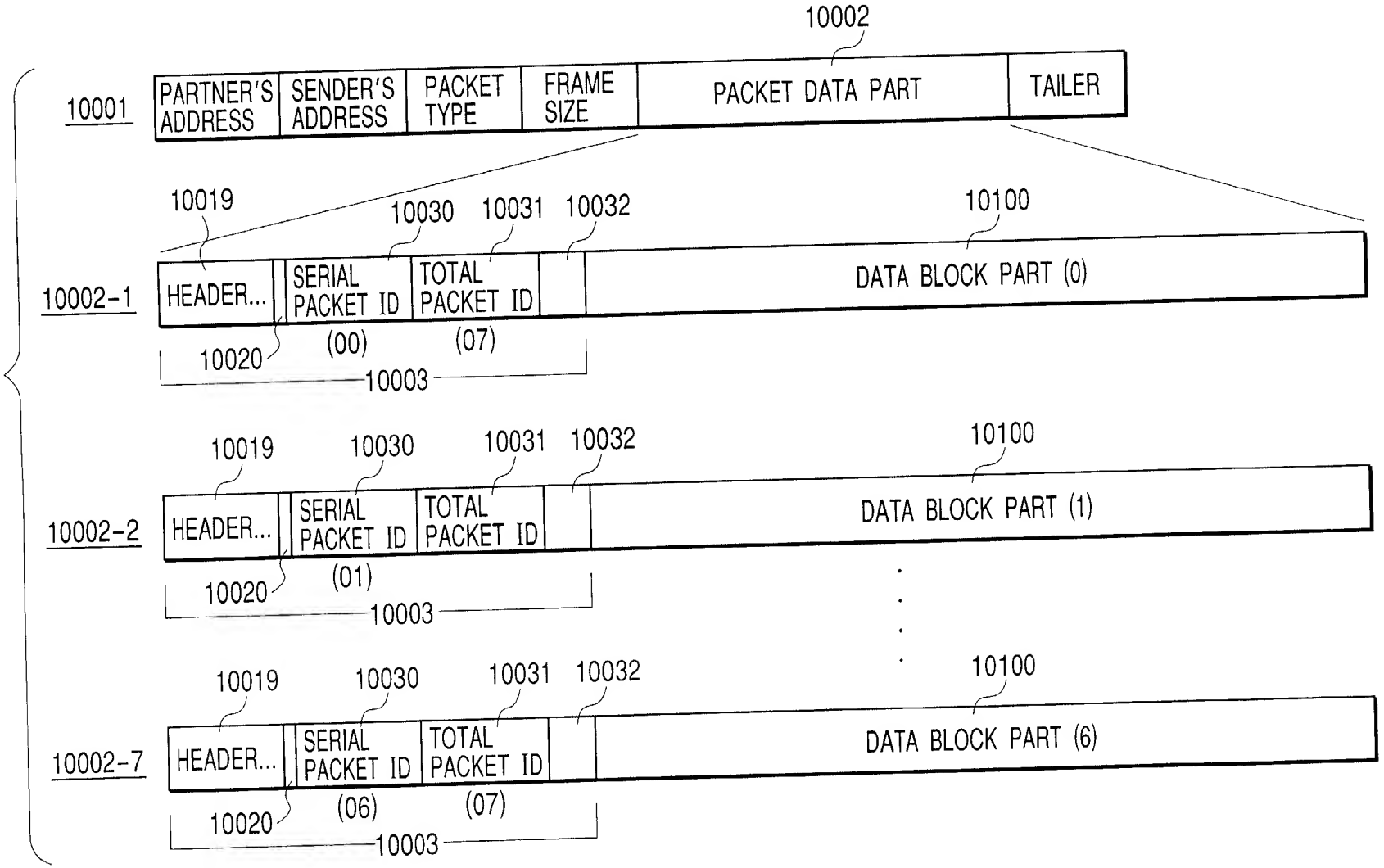
10002
10001
PARTNER'S ADDRESS
SENDER'S ADDRESS
PACKET TYPE
FRAME SIZE
PACKET DATA PART
TAILER
10019
10030
10031
10032
10100
10002-1
HEADER...
SERIAL PACKET ID
TOTAL PACKET ID
DATA BLOCK PART (0)
10020
(00)
(07)
10003
10002-2
DATA BLOCK PART (1)
(01)
10002-7
DATA BLOCK PART (6)
(06)

FIG. 10

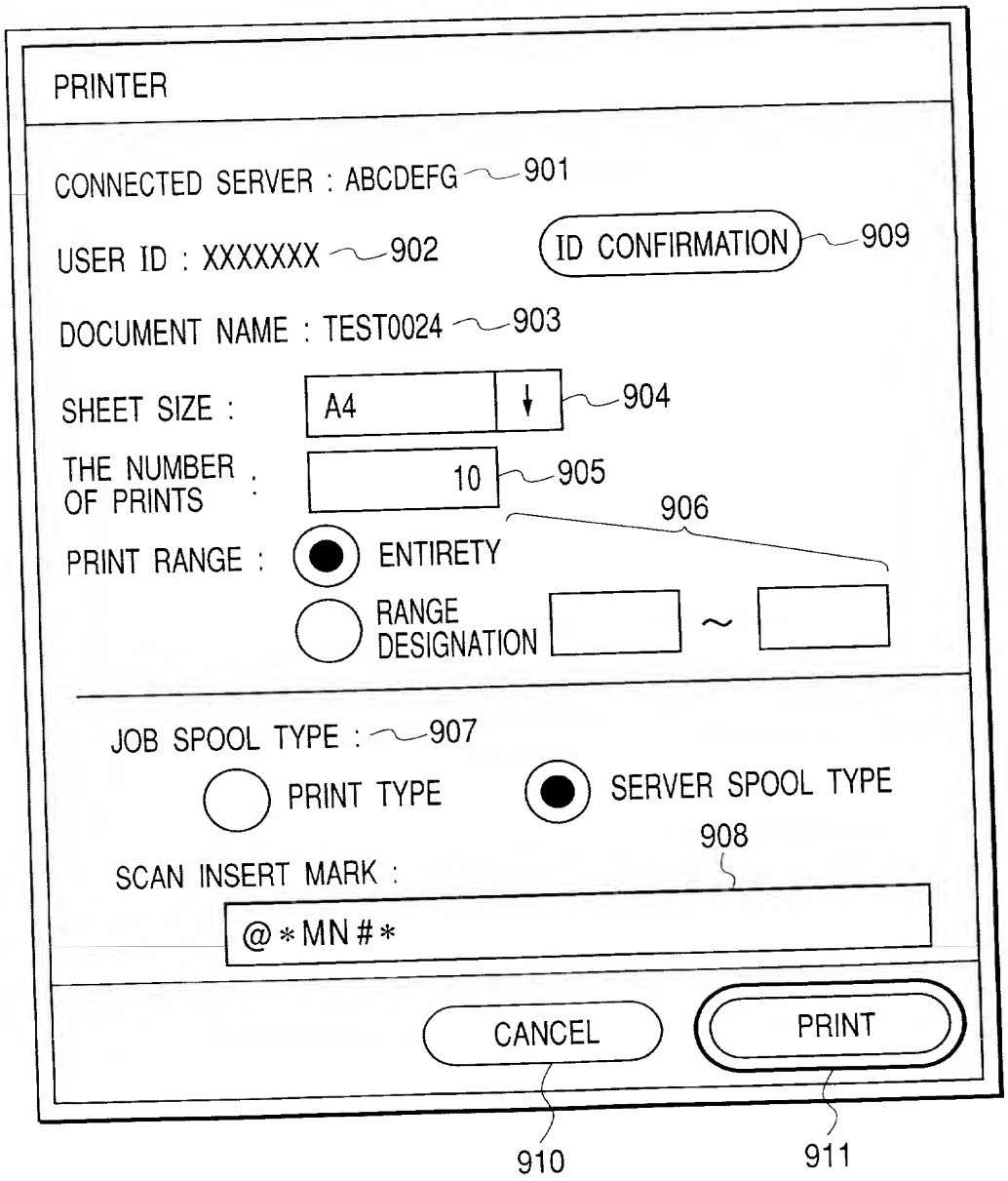
PRINTER
CONNECTED SERVER : ABCDEFG
901
USER ID : XXXXXXX
902
ID CONFIRMATION
909
DOCUMENT NAME : TEST0024
903
SHEET SIZE :
A4
904
THE NUMBER OF PRINTS :
10
905
906
PRINT RANGE :
ENTIRETY
RANGE DESIGNATION
~
JOB SPOOL TYPE :
907
PRINT TYPE
SERVER SPOOL TYPE
908
SCAN INSERT MARK :
@*MN#*
CANCEL
PRINT
910
911

FIG. 11

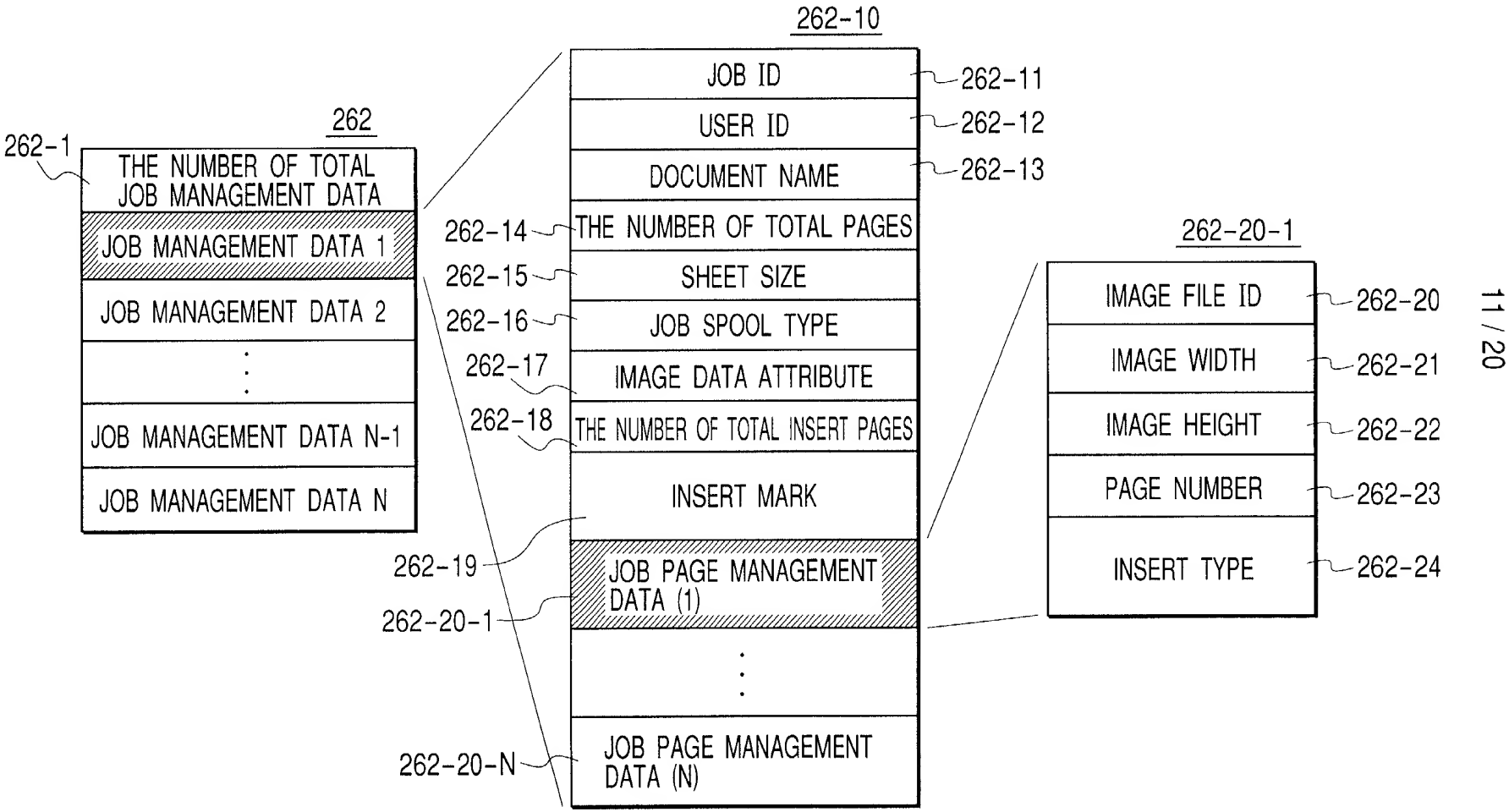
262-10
JOB ID
262-11
USER ID
262-12
DOCUMENT NAME
262-13
262
262-1
THE NUMBER OF TOTAL JOB MANAGEMENT DATA
JOB MANAGEMENT DATA 1
JOB MANAGEMENT DATA 2
JOB MANAGEMENT DATA N-1
JOB MANAGEMENT DATA N
262-14
THE NUMBER OF TOTAL PAGES
262-15
SHEET SIZE
262-16
JOB SPOOL TYPE
262-17
IMAGE DATA ATTRIBUTE
262-18
THE NUMBER OF TOTAL INSERT PAGES
INSERT MARK
262-19
JOB PAGE MANAGEMENT DATA (1)
262-20-1
JOB PAGE MANAGEMENT DATA (N)
262-20-N
262-20-1
IMAGE FILE ID
262-20
IMAGE WIDTH
262-21
IMAGE HEIGHT
262-22
PAGE NUMBER
262-23
INSERT TYPE
262-24

FIG. 12A

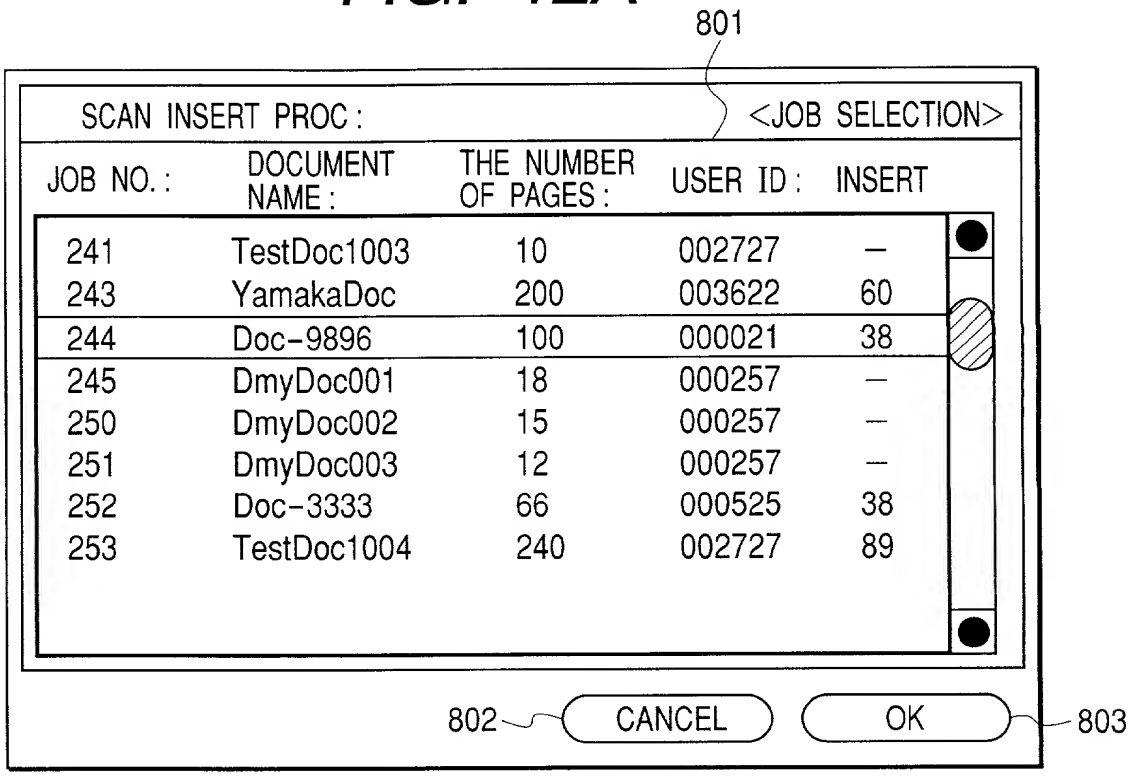

FIG. 12B

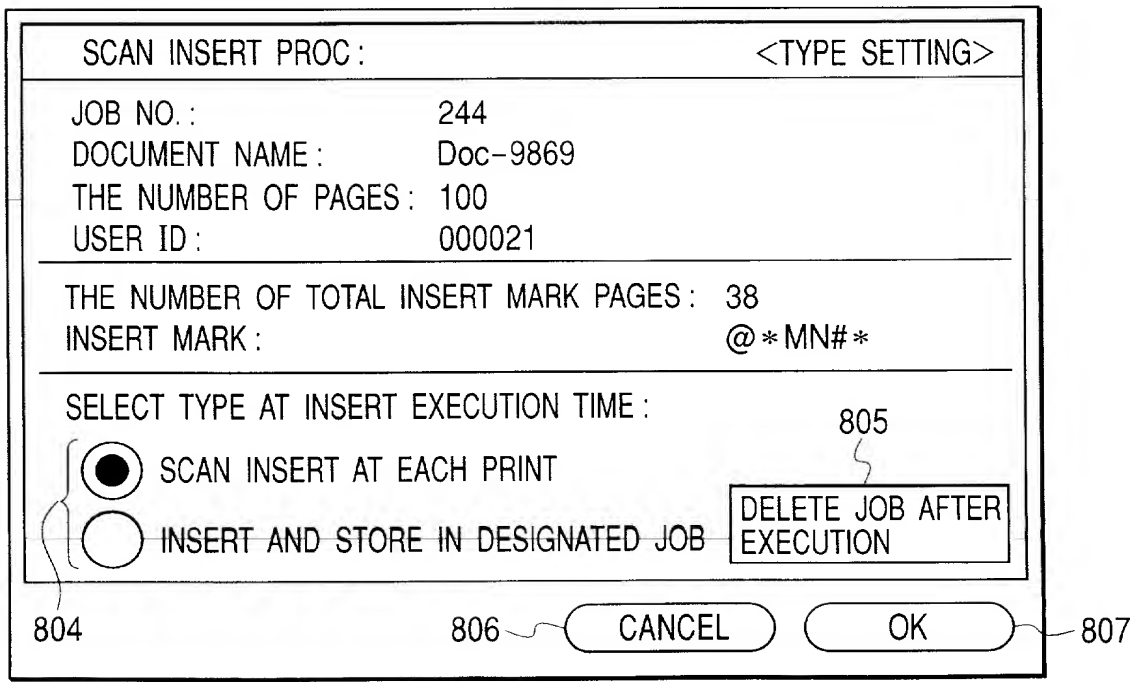

FIG. 13

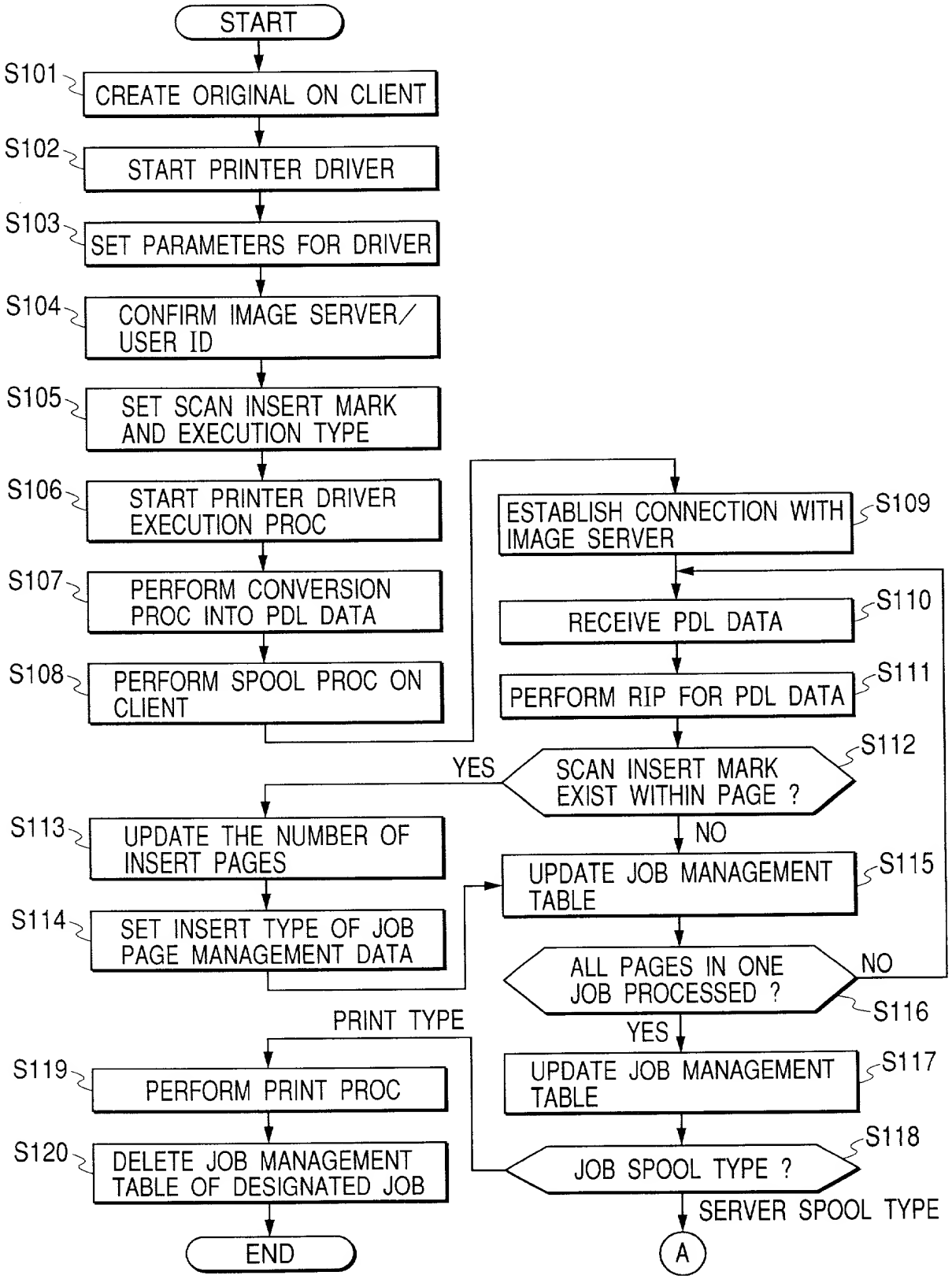
START
S101
CREATE ORIGINAL ON CLIENT
S102
START PRINTER DRIVER
S103
SET PARAMETERS FOR DRIVER
S104
CONFIRM IMAGE SERVER/ USER ID
S105
SET SCAN INSERT MARK AND EXECUTION TYPE
S106
START PRINTER DRIVER EXECUTION PROC
S107
PERFORM CONVERSION PROC INTO PDL DATA
S108
PERFORM SPOOL PROC ON CLIENT
S109
ESTABLISH CONNECTION WITH IMAGE SERVER
S110
RECEIVE PDL DATA
S111
PERFORM RIP FOR PDL DATA
S112
SCAN INSERT MARK EXIST WITHIN PAGE ?
YES
NO
S113
UPDATE THE NUMBER OF INSERT PAGES
S114
SET INSERT TYPE OF JOB PAGE MANAGEMENT DATA
S115
UPDATE JOB MANAGEMENT TABLE
ALL PAGES IN ONE JOB PROCESSED ?
NO
S116
YES
S117
UPDATE JOB MANAGEMENT TABLE
S118
JOB SPOOL TYPE ?
PRINT TYPE
SERVER SPOOL TYPE
A
S119
PERFORM PRINT PROC
S120
DELETE JOB MANAGEMENT TABLE OF DESIGNATED JOB
END

FIG. 14

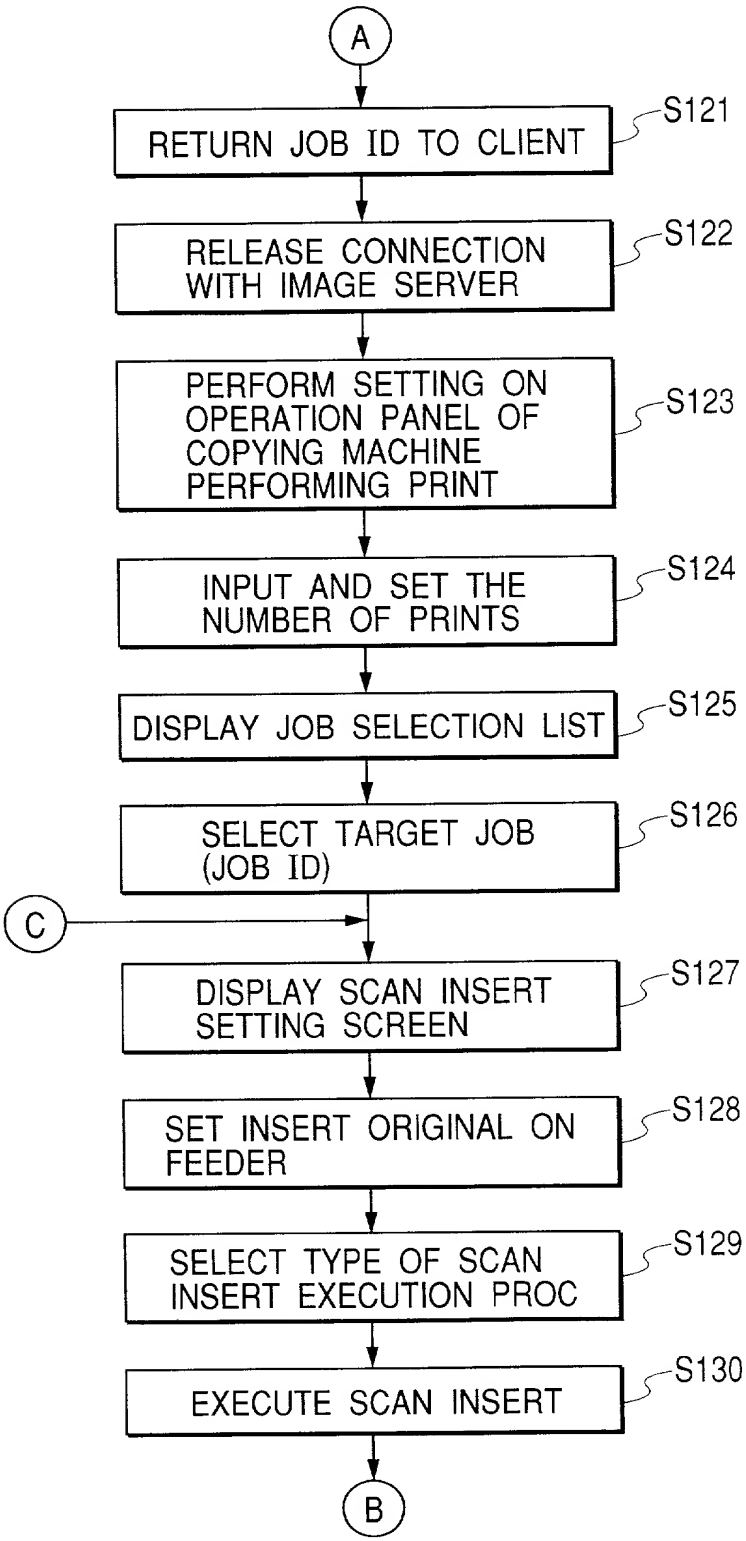

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FIG. 15

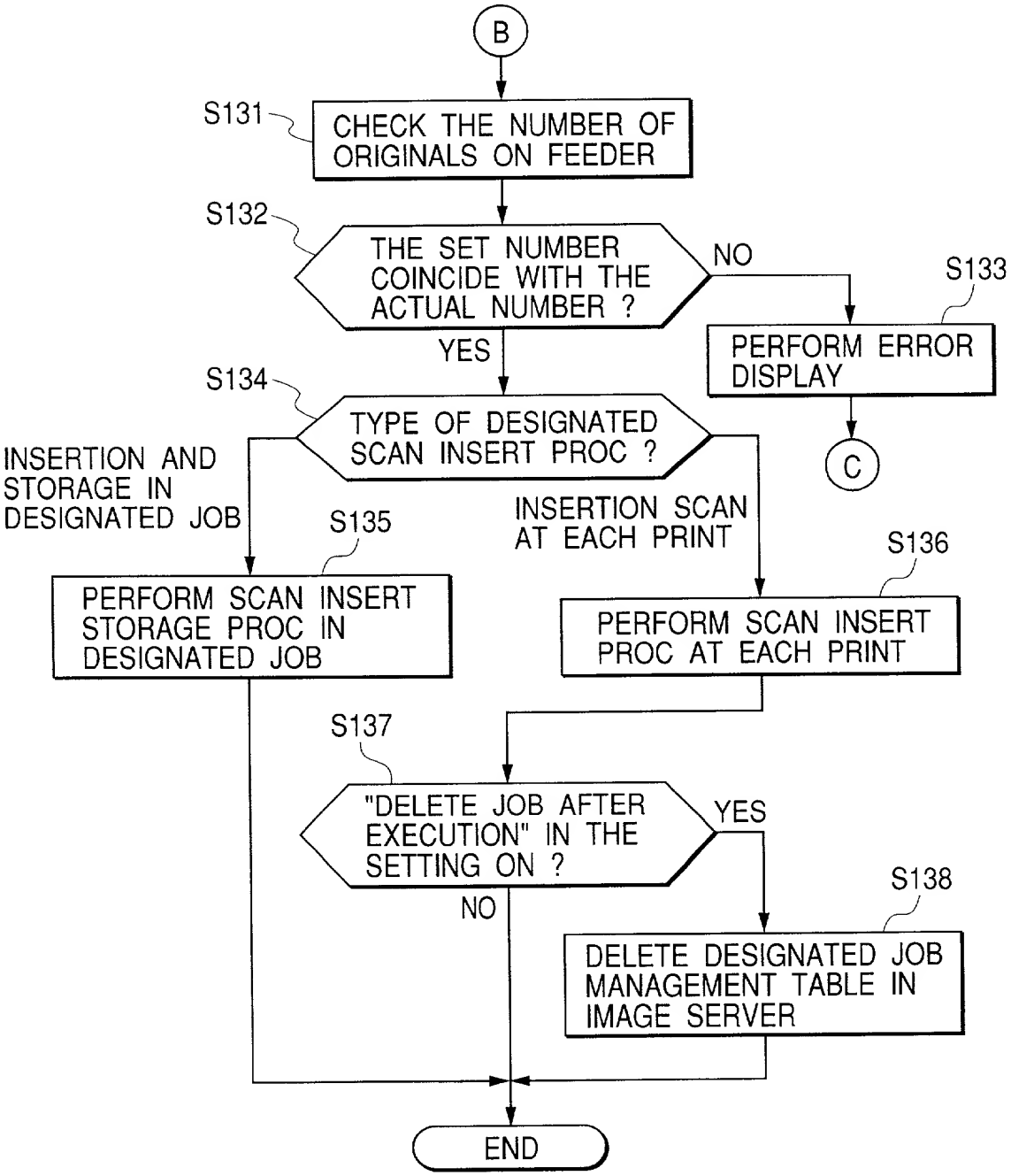
B
S131
CHECK THE NUMBER OF ORIGINALS ON FEEDER
S132
THE SET NUMBER COINCIDE WITH THE ACTUAL NUMBER ?
NO
S133
PERFORM ERROR DISPLAY
C
YES
S134
TYPE OF DESIGNATED SCAN INSERT PROC ?
INSERTION AND STORAGE IN DESIGNATED JOB
S135
PERFORM SCAN INSERT STORAGE PROC IN DESIGNATED JOB
INSERTION SCAN AT EACH PRINT
S136
PERFORM SCAN INSERT PROC AT EACH PRINT
S137
"DELETE JOB AFTER EXECUTION" IN THE SETTING ON ?
YES
NO
S138
DELETE DESIGNATED JOB MANAGEMENT TABLE IN IMAGE SERVER
END

FIG. 16

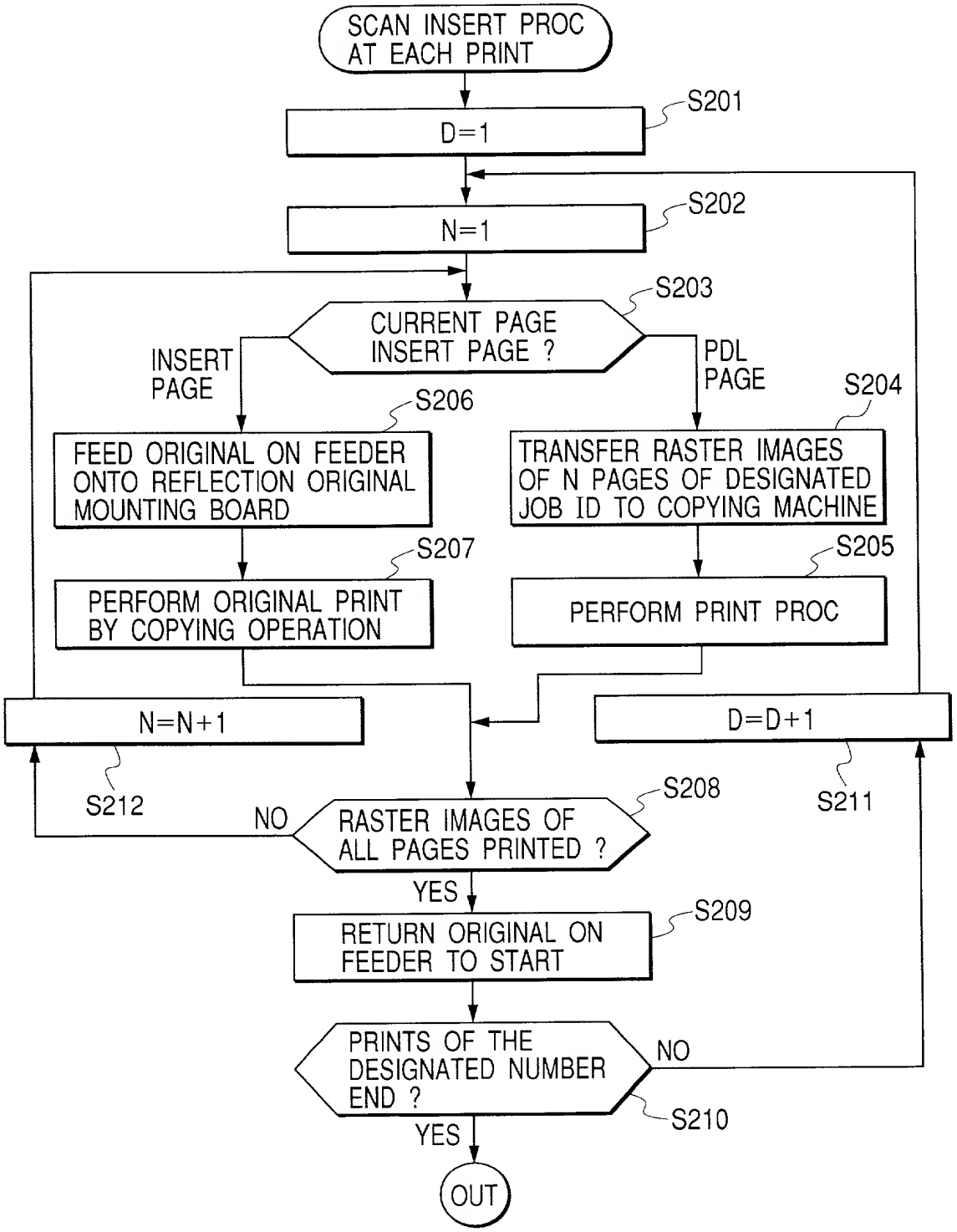
SCAN INSERT PROC AT EACH PRINT
S201
D=1
S202
N=1
S203
CURRENT PAGE INSERT PAGE ?
INSERT PAGE
PDL PAGE
S206
FEED ORIGINAL ON FEEDER ONTO REFLECTION ORIGINAL MOUNTING BOARD
S204
TRANSFER RASTER IMAGES OF N PAGES OF DESIGNATED JOB ID TO COPYING MACHINE
S207
PERFORM ORIGINAL PRINT BY COPYING OPERATION
S205
PERFORM PRINT PROC
N=N+1
S212
D=D+1
S211
S208
NO
RASTER IMAGES OF ALL PAGES PRINTED ?
YES
S209
RETURN ORIGINAL ON FEEDER TO START
PRINTS OF THE DESIGNATED NUMBER END ?
NO
S210
YES
OUT

FIG. 17

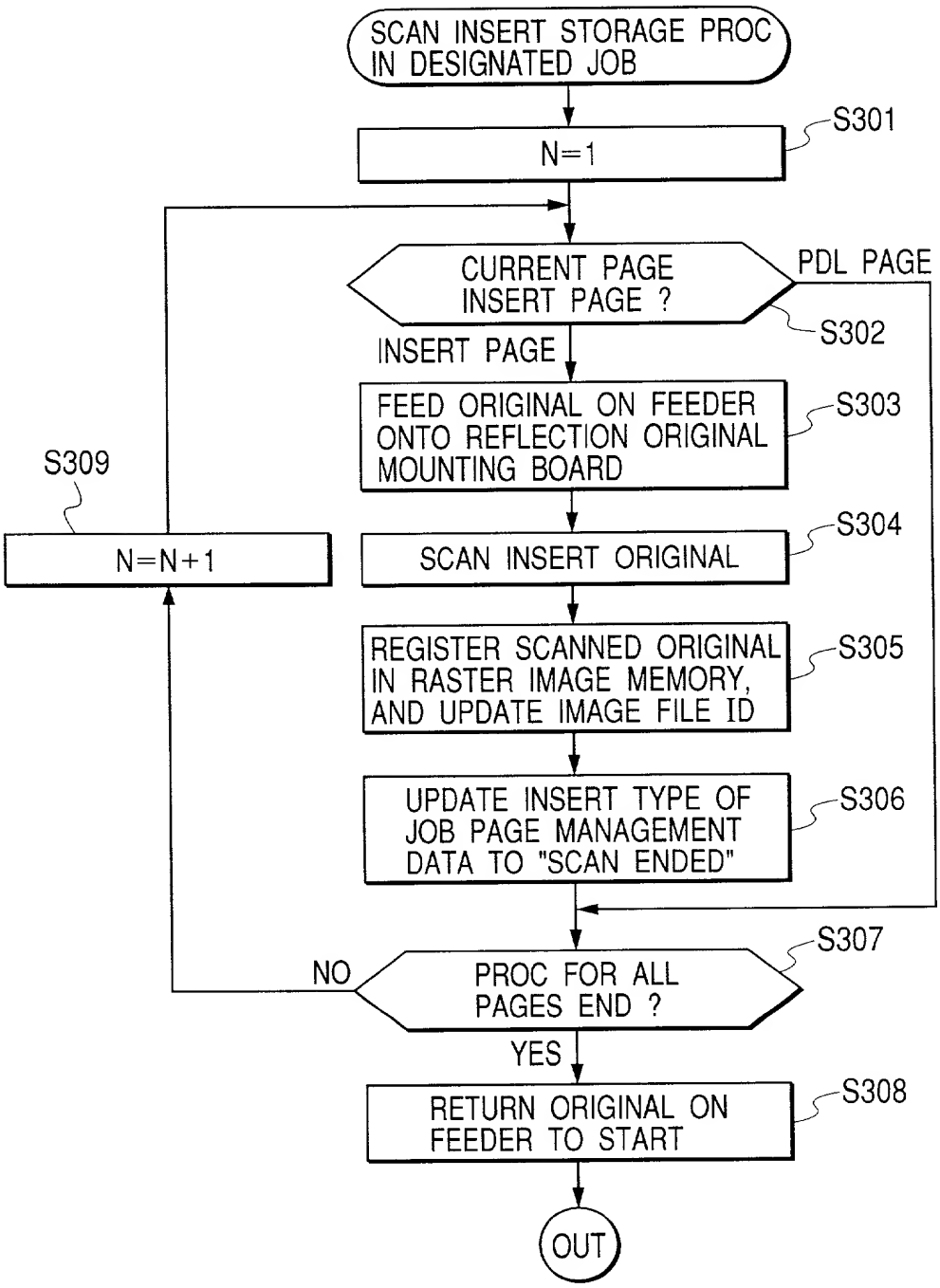
SCAN INSERT STORAGE PROC IN DESIGNATED JOB
N=1
S301
CURRENT PAGE INSERT PAGE ?
PDL PAGE
S302
INSERT PAGE
FEED ORIGINAL ON FEEDER ONTO REFLECTION ORIGINAL MOUNTING BOARD
S303
S309
N=N+1
SCAN INSERT ORIGINAL
S304
REGISTER SCANNED ORIGINAL IN RASTER IMAGE MEMORY, AND UPDATE IMAGE FILE ID
S305
UPDATE INSERT TYPE OF JOB PAGE MANAGEMENT DATA TO "SCAN ENDED"
S306
S307
NO
PROC FOR ALL PAGES END ?
YES
RETURN ORIGINAL ON FEEDER TO START
S308
OUT

FIG. 18

STORAGE MEDIUM (FD, CD-ROM, ETC.)

DIRECTORY INFORMATION
1ST DATA PROC PROGRAM PROGRAM CODE GROUP CORRESPONDING TO STEPS OF FLOW CHARTS SHOWN IN FIGS. 13-15
2ND DATA PROC PROGRAM PROGRAM CODE GROUP CORRESPONDING TO STEPS OF FLOW CHARTS SHOWN IN FIG. 16
3RD DATA PROC PROGRAM PROGRAM CODE GROUP CORRESPONDING TO STEPS OF FLOW CHARTS SHOWN IN FIG. 17

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FIG. 19

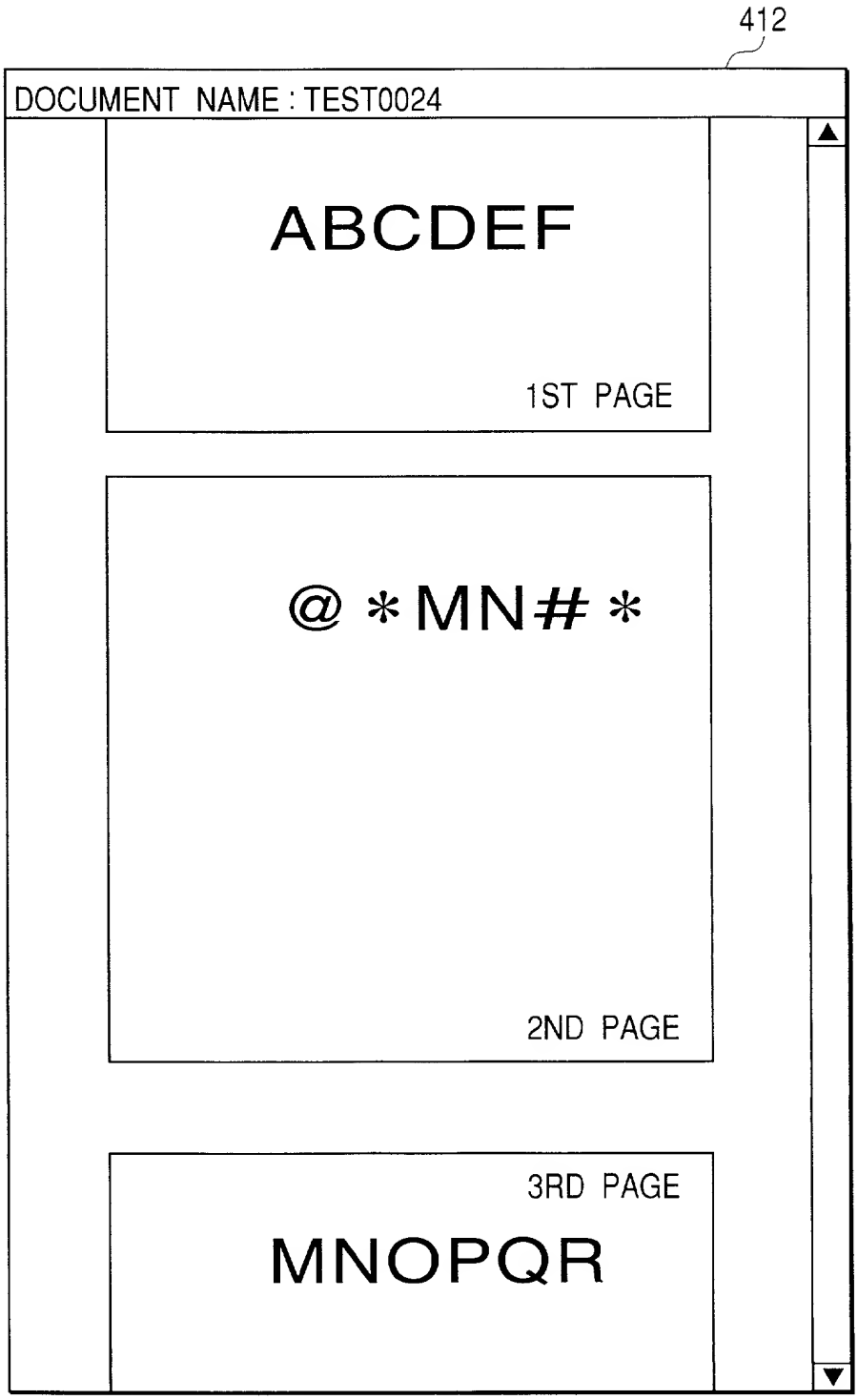

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FIG. 20A

DATA FROM HOST:
THE NUMBER OF TOTAL PAGES CREATED BY HOST:
M PAGES
N OF M PAGES ARE INSERT PAGES

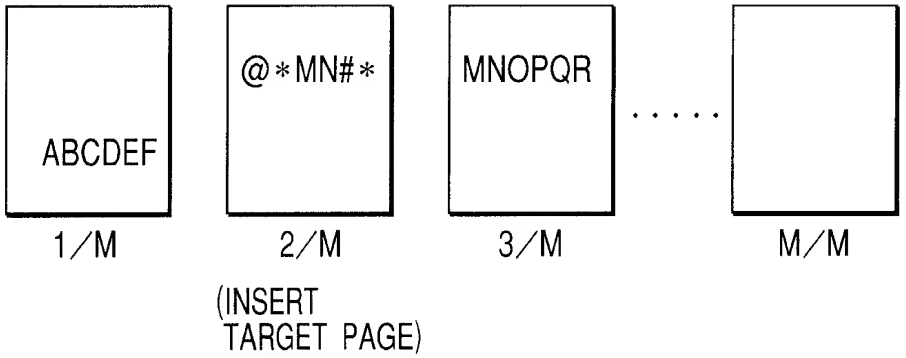


FIG. 20B

READ DATA FROM SCANNER:
THE NUMBER OF INSERT PAGES FROM SCANNER:
N PAGES

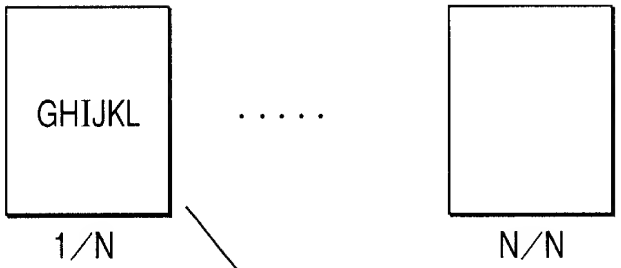
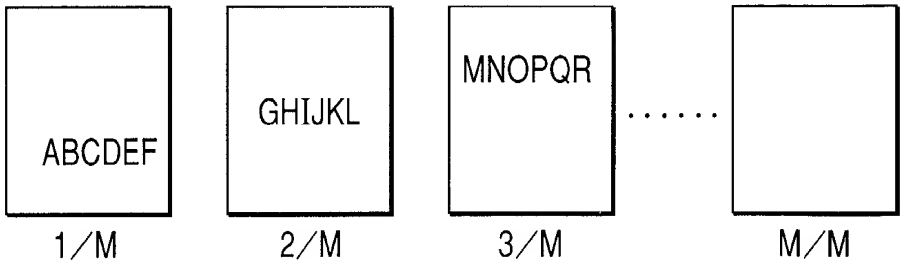


FIG. 20C

THE NUMBER OF OUTPUT RESULTS : M PAGES